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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,238	10/17/2001	Dale K. Bell	60,130-1197/01MRA0362	5578

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EXAMINER

SMITH, JULIE KNECHT

ART UNIT

PAPER NUMBER

3682

DATE MAILED: 10/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/981,238

Applicant(s)

BELL, DALE K.

Examiner

Julie K Smith

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 recites the limitation "said pinion" in lines 5 and 9. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6 and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Butkovich et al. (5,099,635).

Regarding claims 1-3, 6 and 10-12, Butkovich et al. discloses a drive axle assembly (see fig. 3) comprising an axle housing (20), an axle shaft (26) supported at least partially within said axle housing, a driven shaft (130), having a yoke at one end, supported at least partially within said housing transverse to said axle shafts, a gear assembly (116) disposed within said housing

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coupling said axle and driven shafts, a bearing assembly (96,98) supporting said driven shaft in said housing, a first seal (70) interposed between said driven shaft and a pinion bearing cage adjacent to said yoke and a second seal (68) interposed between said driven shaft and said bearing cage adjacent said pinion (see fig. 3), said seals separating said housing into first and second cavities (64, 58) with said bearing assembly and said gear assembly respectively disposed therein, a first lubricant in said first cavity lubricating said bearing assembly and a second lubricant different than said first lubricant in said second cavity lubricating said gear assembly (see col. 8, lines 14-23).

Regarding claims 4-5, Butkovich et al. discloses a bearing cage that is a through shaft bearing cage and an input bearing cage (see fig. 1).

Regarding claim 9, Butkovich et al. discloses coaxial axle shafts (26, see fig. 1) wherein said gear assembly includes a differential (24) connecting said axle shafts and said driven shaft to permit relative rotation between said axle shafts.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butkovich et al. as applied to claims 1-6 and 9-12 above, and further in view of Scholl et al. (4,699,529). Butkovich et al. discloses an axle assembly, as claimed, but does not disclose the

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bearing assembly as claimed. However, Scholl et al. teaches a bearing assembly including a cup (1) affixed to a cage (3) and a cone (2) affixed to a shaft (2) with rolling elements (5) arranged between said cup and said cone, and a seal (8) interposed between said cage and cone.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the bearing assembly of Butkovich et al. with the bearing assembly of Scholl et al. so as to provide a more effective sealing means, thus preventing lubricant from leaking out of one chamber and into another chamber which may cause damage to the bearing assembly.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Butkovich et al. as applied to claims 1-6 and 9-12 above, and further in view of Tersigni et al. (5,763,372). Butkovich et al. discloses an axle assembly but is silent as to the lubricant used in the assembly. However, Tersigni et al. teaches a GL-5 gear lubricant additive used in transmission applications (see col. 14, lines 59-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the lubricant of Butkovich et al. with the lubricant as taught by Tersigni et al. so as to increase efficiency, reduce friction and reduce corrosion of the axle assembly.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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3,734,579 to Schumacher

4,413,701 to Kumagai

4,739,678 to Miura et al.

4,907,669 to Cameron et al.

3,838,751 to Brown

4,431,063 to Dressel et al.

4,726,256 to von Kaler et al.

5,520,589 to Dewald et al.

5,172,787 to Kobayashi

6,093,131 to Rohs

4,331,210 to Petrak

4,271,717 to Milward et al.

5,553,870 to Czekansky et al.

3,887,037 to Haluda et al.

4,018,097 to Ross

6,303,547 to Balasubramaniam

5,334,329 to Vinci et al.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie K Smith whose telephone number is 703-305-3948. The examiner can normally be reached on Monday-Friday, 8-5:30, (Every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Bucci can be reached on 703-308-3668. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

JKS
jks

October 23, 2002


DAVID A. BUCCI
SUPERVISORY PATENT EXAMINER
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